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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.  | CONFIRMATION NO. |
|--|-------------|----------------------|----------------------|------------------|
| 10/047,741   | 11/09/2001  | Scott A. Thompson    | 650-A01-003          | 3778             |
| 23334  | 7590        | 06/08/2005           | EXAMINER             |                  |
| FLEIT, KAIN, GIBBONS, GUTMAN, BONGINI<br>& BIANCO P.L.<br>ONE BOCA COMMERCE CENTER<br>551 NORTHWEST 77TH STREET, SUITE 111<br>BOCA RATON, FL 33487 |             |                      | OPSASNICK, MICHAEL N |                  |
|  |             |                      | ART UNIT             | PAPER NUMBER     |
|  |             |                      | 2655                 |                  |

DATE MAILED: 06/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/047,741             | THOMPSON, SCOTT A.  |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Michael N. Opsasnick   | 2655                |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 November 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,10-12,19 and 20 is/are rejected.
- 7) ☒ Claim(s) 3-9,13-18 and 21-24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Specification***

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "Modifying Voice Recognition Scores Based Upon Barge-In Time Via the User".

### ***Claim Objections***

2. Claims 1 and 2 are objected to because of the following informalities:

As per claim 1, the phrase "at least partially" is not clear as to how much dependence is required for the timing of the utterance. For art related examination purposes, examiner interprets the claim scope of "based at least partially on a time" to be "based on a time".

As per claim 2, the phrase "the sub steps" lack antecedent basis. Replace the phrase "the sub steps" with "sub steps".

Appropriate correction is required.

*Drawings*

3. The drawings are objected to because the numerical references in Fig.7 are handwritten. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claimed feature of comparing initial confidence scores to a threshold, as claimed in claims 8,16, and 23 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

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Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Allowable Subject Matter***

5. Claims 3-9, 13-17, and 21-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
6. The following is a statement of reasons for the indication of allowable subject matter:

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The recited claim limitations of claims 3,9,13,21, and 24 pertaining to the measurement of the time differential between an audio prompt presented to a user and the barge-in time of the user, and using that time differential to influence the confidence score of the speech recognition results of the user's spoken utterance during barge-in, is not explicitly taught by the prior art of record.

With respect to the prior art of record, barge-in technology is notoriously well known in the art of speech recognition. Nguyen (5765130) teaches detection of barge-in time. Mitchell et al., (6574595) teaches declaration of barge-in when the speech recognition is complete (fig. 2b). Johnson et al., (5155760) teaches the onset of speech used to stop the prompt of audible messages. Setlur et al., (5956675) teaches computing speech recognition likelihood scores to improve upon the barge-in time. Yuschik (6526382) teaches training the system for a user response within a period of time (col. 11 lines 50-63). Holthouse et al., (6606598) teaches a time measurement of speech duration during barge-in, but it does not affect confidence scores (Fig. 2f). Immarco et al., (5991726) teaches a barge-in switch based upon a previous input (abstract, Fig. 1). However, none of the prior art of record explicitly teaches the claim limitations of claims 3,9,13,21, and 24, as noted above. Furthermore, it would not have been obvious to one of ordinary skill in the art of speech recognized barge-in systems to modify the teachings of the prior art of record to obtain the recited limitations of the claims noted above.

*Claim Rejections - 35 USC § 102*

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1,10,11,18, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Nguyen (5765130).

As per claim 1 Nguyen (5765130) teaches:

“a method for automated voice recognition” as a method to use a speech recognition system (col. 4 lines 10-15; col. 6 lines 64-66);

“providing an audible list containing a plurality of items” as prompts for the user to choose from (col. 1 lines 5-13);

“receiving an utterance indicating a selected one of the items from the list” as barge-in utterance from the user (col. 4 lines 49-55);

“matching the utterance with a matched one of the items from the list based at least partially on a time that the utterance was received” as starting the recognition process at the time the user utterance is recognized (col. 4 lines 55-64).

As per claim 10, Nguyen (5765130) teaches:

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“wherein the matching step includes the sub-step of determining the time that the utterance was received based on an echo cancellation time for the utterance” as calculating an echo response (col. 4 lines 22-34).

As per claim 11, Nguyen (5765130) teaches:

“A machine-readable medium encoded with a program for automated voice recognition, said program containing instructions for performing the steps of” as the voice recognition system (col. 4 lines 10-15; col. 6 lines 64-66) implementable on a combination of software and hardware – col. 7 lines 14-17);

“providing an audible list containing a plurality of items” ” as prompts for the user to choose from (col. 1 lines 5-13);

“receiving an utterance indicating a selected one of the items from the list; and” as prompts for the user to choose from (col. 1 lines 5-13);

“matching the utterance with a matched one of the items from the list based at least partially on a time that the utterance was received” as starting the recognition process at the time the user utterance is recognized (col. 4 lines 55-64).

As per claim 18, Nguyen (5765130) teaches:

“wherein the matching step includes the sub-step of determining the time that the utterance was received based on an echo cancellation time for the utterance.” as calculating an echo response (col. 4 lines 22-34).



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As per claim 19, Nguyen (5765130) teaches:

“An automated voice recognition system comprising:” as a speech recognition system (col. 4 lines 10-15; col. 6 lines 64-66);

“a first input for receiving a list containing a plurality of items” ” as prompts for the user to choose from (col. 1 lines 5-13);

“a second input for receiving an utterance indicating a selected one of the items from the list,” as barge-in utterance from the user (col. 4 lines 49-55);

“ a third input for receiving a time that the utterance was received” as noting the beginning of the speech utterance (col. 4 lines 57-63);

“ and a comparator for outputting a matched one of the items from the list based on the first, second, and third inputs” as starting the recognition process at the time the user utterance is recognized (col. 4 lines 55-64).

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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10. Claims 2,12, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nguyen (6765130) as applied to claims 1,11, and 19 above, and further in view of Mitchell et al (6574595).

As per claims 2,12, and 20, the voice recognition method, system, and computer readable medium as taught by Nguyen (5765130) discusses in detail the use of barge-in technology in voice/speech recognition systems (col. 6 lines 59-67), but is silent on using a list of confidence scores based on the user's speech input, and selecting the matched item (as claimed in claims 2,12, and 20); however, Mitchell et al (6574595) teaches an automatic speech recognition system calculating a network of sub-word confidence scores (col. 1 lines 60-66), wherein the system declares barge-in when recognized (col. 2 lines 25-32), generating a likelihood correspondence to the utterance, and outputting the string (col. 2 lines 32-35). Therefore, it would have been obvious to one of ordinary skill in the art of barge-in speech recognition systems to further improve upon the system as taught by Nguyen (5765130) with sub-word recognition based confidence scoring and matching the user's utterance because it would advantageously provide a more accurate and faster barge-in response system. (Mitchell et al (6574595), col. 9 lines 4-9).

### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Harrison et al (6418216) teaches a barge-in protocol.

Hughes et al (6282268) teaches a barge-in facility for VAD.

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**12. Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

(703) 872 9314,

(for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal

Drive, Arlington, VA., Sixth Floor (Receptionist).

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Opsasnick, telephone number (571)272-7623, who is available Tuesday-Thursday, 9am-4pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's acting supervisor, Mr. David Ometz, can be reached at (571)272-7593. The facsimile phone number for this group is (571)272-7629.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 2600 receptionist whose telephone number is (571) 272-2600, the 2600 Customer Service telephone number is (571)272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mno

5/25/05

  
Michael N. Opsasnick  
Examiner  
Art Unit 2655